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Studies of orchards near San Dimas and Glendora, Calif., to determine the relation of use of water to yield of fruit, according to a report by Colin A. Taylor, indicate the dominant influence of soil type. High and sustained production together with economical use of water was associated with the deeper loam soils of medium texture. The seasonal use of water was higher on the open gravelly loams and this seemed to be connected with more frequent irrigations and lower efficiency of application. Trees on the compact red soil were generally small and the production low, and many of these orchards had a low seasonal use of water.

Harry F. Blaney attended an all-day session at Las Vegas, Nev., called by State Extension Director Cecil Creel, on water and soil conservation problems in southern Nevada. The meeting was attended by representatives of the Department of Agriculture and State and local agencies. The conference dwelt primarily on projects in Lincoln and Clark counties. It was brought out that draining alkali lands is one of the most important problems in connection with water and soil conservation in this area, and that better coordination of the work of the various Federal, State and local agencies is desirable.

#### Retirement Fund Beneficiary

An employee of the United States who comes within the purview of the Civil Service Retirement Act is permitted to designate a beneficiary to receive the amount to his credit in the retirement fund at the time of death. If no beneficiary has been designated the sum goes to the decedent's estate. Forms for designating a beneficiary may be obtained from the Bureau personnel office upon request.

The Oregon Agricultural Experiment Station plans to publish two bulletins covering the past six year's work at the Medford experiment station on the irrigation of pears, material for which is being prepared by M. R. Lewis, assisted by R. A. Work and R. B. Allyn. One will deal with responses of pears to irrigation, including the effect of different moisture conditions in the root zone on the growth of trees and fruit and on the quality of fruit; the other with the relation of pruning and thinning to growth of trees and yield of fruit. Dr. Aldrich of the



Oregon Experiment Station, is co-author of these two bulletins. He plans to write a third bulletin for this series, on blossoming and set of fruit. Preliminary draft of the text for the first publication is almost completed.

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Under the Snow Survey and Irrigation Water Supply Forecasting project, J. C. Marr made final preparations for receiving snow survey information from cooperators and for issuing the January 1 report. R. L. Parshall made a trip to the Blue Lakes area where he located a snow course at an elevation of 10,000 feet. He conferred with representatives of the Forest Service, Bureau of Reclamation, State Engineer's Office, and the Denver Water Board to make final arrangements for observations on all Colorado snow courses this coming season. Carl Rohwer prepared maps showing location of the major drainage areas, snow courses and stream-gaging stations in Colorado, Wyoming and New Mexico. R. A. Work constructed a model on a scale of 1:6 of one of the deep-snow shelter cabins, and prepared a paper on "Construction of Snow Survey Shelter Cabins" for publication at a later date. R. B. Allyn installed short-wave radio transmitting and receiving equipment at the Medford experiment station and at the Diamond Lake snow course, and weekly contact schedules are now in effect for regular reception of snow measurements from this isolated location. A similar installation is being set up to establish contact with our snow observer at Goolaway Gap. Winter sports information was assembled by all field men of the Division engaged on this project, and broadcast each Friday, beginning Dec. 17, from Salt Lake City, Denver, Boise, and San Francisco. A local broadcast for Oregon was sent out from Medford.

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In connection with the project Storage of Water Underground, Dean C. Muckel supervised the construction of a 10-foot Parshall flume on the Lower Cucamonga (Calif.) spreading area. Revised plans of the Anaheim spreading system were gone over with the Chief Engineer of the Orange County Flood Control District and arrangements made to enlarge the measuring flume formerly used to measure the inflow to the spreading basins. This enlargement became necessary because of diversions built during the summer to supply flood water from the Placentia area to the spreading grounds. Stream flow records for Cucamonga Creek were obtained from the U. S. Geological Survey in order that by deducting the flow past the flumes from the flow which passed the U.S.G.S. station, the amount of water percolating in the upper section of the spreading grounds could be determined.

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Various laboratory soil tests were made recently by Harry G. Nickle, mostly on samples from proposed dam sites in the Huntsville State Park in Walker County and from the Fort Phantom Hill Dam near Abilene, Texas. As a result of 'shrinkage' tests made on small test cylinders of earthen materials, curves have been made showing the volumetric shrinkage during a period of thirty days. With the aid of these curves and the mechanical analysis of samples (indicated by percentages in each of the six main size groups), it is possible to estimate quite closely the volumetric shrinkage of any given material as soon as the mechanical analysis has



been determined. A more exact figure can be obtained by shrinkage measurements for a period of 5 or 6 days, as it has been found that on the small cylinders used, almost no shrinkage will occur after that length of time. The Texas Board of Water Engineers is frequently requested to furnish the total volumetric shrinkage of a given material.

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R. L. Parshall read a paper entitled "Canal and Stream Measurement" before the annual convention of the Nebraska State Irrigation Association at North Platte.

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An exhibit illustrating various phases of the work of the Department was held in the patio of the Administration Building in Washington January 10-22. The various exhibits, provided by many Bureaus, were designed to show Department activities on a functional rather than a bureau basis and to emphasize ways in which farming, industry and society in general benefit from the results of research.

This bureau had on display an exhibit showing the results of research on the resistance of various cements and concretes to the disintegrating effects of alkaline salts in the soil, a snow tube used in taking samples on snow courses in watersheds of the West, a model variable-depth cotton planter, a model seed treater, miniature cotton gin in operation, a cotton gin saw, a replica of a wooden moldboard plow used in 1732, a modern steel walking plow, a modern moldboard tractor plow equipped with the bureau's self-aligning disk jointer and trash shield, and several water color renderings of different kinds of farm buildings.

The Department is considering plans to make such an exhibit of its work an annual feature to be put on, perhaps, during the Easter holidays when there are many visitors in Washington.

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C. F. Kelly returned recently to the Washington office after devoting the summer and fall to wheat storage experiments at Fargo, North Dakota. He is working up the test results and assisting B.M. Stahl with analysis of data from the other stations doing work on this project.

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J. W. Simons and F. B. Lanham of Athens, Georgia, on the farmhouse research project, went to Decatur, Ala., to examine steel fabricated buildings erected by the Farm Security Administration. The buildings are being taken down for shipment to Berwyn, Md., where they will be reassembled.

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A. D. Edgar has gone to Arcoostook County Maine to make observations in the potato houses constructed and being operated in accordance with the results of investigations by the Bureau and the University of Maine.

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Lewis A. Jones was in Milwaukee January 13 to 15 with John G. Sutton, District Engineer, C.C.C., reviewing the approved drainage maintenance work programs of the C.C.C. drainage camps operating in the central states. From Milwaukee Mr. Jones went to New Orleans to confer



with B. O. Childs relative to the operation of the camps in Louisiana. He returned to Washington January 18.

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A fire on New Years Day destroyed the office building and all the records of the Delta, Missouri, CCC drainage camp D-3. The fire originated in the Army quarters of the building containing both Army and Bureau offices.

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In spite of considerable inclement weather and the holiday vacation period, the December report of the Central Region camps showed completion of 6,021,000 square yards of clearing work, 963,000 cubic yards of excavation, 19,700 feet of tile reconditioning, and other miscellaneous work with a total of 73,191 available man-days.

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E. M. Mervine and S. H. McBirney attended the meeting of the American Society of Sugar Beet Technologists in Salt Lake City, Utah, on January 11, 12, and 13. This new organization is the outgrowth of several round table meetings held at Fort Collins, Colo., during the past four years for discussion of sugar beet research problems. Bureau engineers have taken part in these meetings and in the development of the Society.

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J. M. Corliss of the Bureau of Entomology and Plant Quarantine visited the Toledo office December 20 to confer with R. M. Merrill and O. K. Hedden regarding the use of various types of equipment for control of the white fringed beetle in the southern states.

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While attending the annual meeting of the American Society of Economic Entomologists at Indianapolis, Indiana, December 27 and 28, R. M. Merrill conferred with several entomologists who have been co-operating with the Bureau in work with pest control equipment.

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A manuscript covering the use of small burners for control of various crop pests has been prepared by O.K. Hedden.

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At the annual meeting of the Utah Crop Improvement Association at Ogden, Utah, Jan. 10, E. M. Dieffenbach presented a paper on "Equipment Suitable for Weed Eradication". He also attended the first annual meeting of the American Society of Sugar Beet Technologists at Salt Lake City, January 11 to 13.

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W. M. Hurst and George Stafford have recently rebuilt a grain cleaner for use by the Bureau of Entomology and Plant Quarantine for laboratory use in removing hibernating boll weevil from wood trash.

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Publications issued: Technical Bulletin 591 "Relation of Stable Environment to Milk Production", by M. A. R. Kelley and I. W. Rupel.

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